What is claimed is:

1. A drilling hammer comprising a hammer tube (13) that is rotatably supported in a housing (10), the hammer tube being rotationally driveable by a driven wheel (31) of a gear unit (30) sitting on the hammer tube (13), with a striking tool (14) located in the hammer tube (13), the striking tool including a piston (15) that can be driven with a reciprocating motion, and an operating mode change-over switch (35) for the "impact drilling" and "chiseling" operating modes, the operating mode change-over switch including a manually actuatable control button (36) and a switching mechanism (37) connected with the control button (36), the switching mechanism coupling the hammer tube (13) to the driven wheel (31) when in the "impact drilling" setting of the control button (36) and fixing it in a non-rotative manner in the housing (10) when in the "chiseling" setting,
wherein the switching mechanism (37) includes an actuator ring (48) fixed on the hammer tube (13) in an axially displaceable and torsion-proof manner, the actuator ring including at least one radially projecting locking spline (51) on its outer side facing away from the hammer tube (13), the locking spline being designed to slide—in the circumferential direction, in a form-locked manner—into at least one axial recess (52) in the drive wheel and into locking toothing (53) in the housing.

2. The drilling hammer as recited in Claim 1,
wherein, to fix the actuator ring (48) in a torsion-proof and axially displaceable manner on the hammer tube (13), the actuator ring (48) includes at least one radially projecting guide spline (49), preferably two diametrally located guide splines (49), on its inner side facing the hammer tube (13), and the hammer tube (13) includes at least one axial guide groove (50), preferably two diametrally located guide grooves, on its outer side facing the actuator ring (48), in which the guide spline (49) is situated in the circumferential direction in a form-locked manner.

3. The drilling hammer as recited in Claim 1 or 2,
wherein the actuator ring (48) is located on the side of the driven wheel (31) facing away from the control button (36) and is connected—underneath and past the driven wheel (31)—with a coupling ring (45) slid onto the hammer tube (13) on the other side of the driven wheel (31), the coupling ring being coupled to the control button (36) such that activating the control button brings about an axial displacement of the actuator ring (48).

4. The drilling hammer as recited in Claim 3,
wherein the connection between the actuator ring (48) and coupling ring (45) is created using at least two cantilevers (46) projecting axially outwardly from the coupling ring (45).

5. The drilling hammer as recited in Claim 3 or 4,
wherein the cantilevers (46) are integrally molded on the coupling ring (45) and the actuator ring (48) is accommodated in recesses (47) that are formed close to the end of the cantilevers (46) furthest away from the coupling ring in the outer side of the cantilevers (46) facing away from the hammer tube (13).

6. The drilling hammer as recited in Claim 4 or 5,
wherein the cantilevers (46) are axially displaceable and are accommodated in the circumferential direction of the hammer tube (13) in axial grooves (50) in the hammer tube (13) in a form-locked manner.

7. The drilling hammer as recited in one of the Claims 3 through 6,
wherein an annular groove (54) is formed in the outside of the coupling ring (45), in which a radially directed projection (55) of a shift fork (44) coupled with the control button (36) is displaceably guided.

8. The drilling hammer as recited in Claim 7,

wherein the control button (36) is fixed in the housing (10) such that it is pivotable around a rotation axis, and the shift fork (44) is coupled via a synchronizing spring (56) to an eccentric pin (40) extending out of the control button (36) and positioned with radial clearance from the axis of rotation.

9. The drilling hammer as recited in Claim 8,
wherein the synchronizing spring (56) is a coil spring with long legs (561, 562) bent at a right angle to the spring axis, and the spiral spring (56) is mounted on a bolt (57) formed on the shift fork (44) and bears, in a non-positive manner, with both of its legs (561, 562) on diametral points of the eccentric pin (40) opposite each other in the sliding direction of the shift fork (44).

10. The drilling hammer as recited in one of the Claims 1 through 9,
wherein a setting position is assigned to the control button (36), in which the displacement position of the actuator ring (48) of the switching mechanism (37) is set such that the actuator ring (48) is neither in torsion-proof engagement with the driven wheel (31) nor in torsion-proof engagement with the housing (10).

11. The drilling hammer as recited in one of the Claims 1 through 10,
wherein the control button (36) has a setting position for the "drilling" operating mode in which the striking tool (14) is decoupled, and the striking tool (14) is decoupled by a sliding motion of a switching mechanism part (37) that is triggered by the control button (36) and travels at a right angle to the hammer tube (13).

12. The drilling hammer as recited in Claim 11,
wherein a coupling with two coupling parts held in engagement with each other by a coupling spring (23) is located in the drive chain for the striking tool (14); one of the coupling parts is configured such that it can be displaced against the force of the coupling spring (23) by the switching mechanism part actuated by the control button (36).

13. The drilling hammer as recited in Claim 12,
wherein a switching ramp (41) is formed on the control button (36), which rises in the rotational direction of the control button (36) at a right angle to the underside of the control button (36), and the switching mechanism part is a separating slide (24) guided in an axially sliding manner, that bears against the switching ramp (41) in a non-positive manner and against the displaceable coupling part.

14. The drilling hammer as recited in Claim 13,
wherein the non-positive connection between the separating slide (24) and the coupling part, and between the separating slide (24) and the switching ramp (41) is established by a spring (42) acting on the separating slide (24), the spring force of which is greater than that which is directed against the coupling spring (23) and the coupling spring force.

15. The drilling hammer as recited in one of the Claims 12 through 14,
wherein the drive chain for the striking tool (14) includes a crank wheel (18) of a crank driving mechanism (16) engaging in the piston (15) of the striking tool (14), and a gearwheel (21) that meshes with a drive pinion (28) driven by an electric motor (27),
the crank wheel (18) and the gearwheel (21) form the coupling parts that are engaged with each other via axial toothing (25), and the coupling spring (23) is configured as a compression spring that bears axially between the crank wheel (18) and the gear wheel (21).